

Ohio Beetles Bulletin

Occasional Publication of the Ohio Coleopterists

Edited By: Ken Karns

Species@columbus.rr.com

Issue Number: 11

December 2012



Eucnemidae: *Euryptychus heterocerus* (Say)

The Ohio Beetles Bulletin (OBB) was developed to provide the Ohio Coleopterists membership a means of communication in conjunction with the Ohio Coleopterists Newsletter. It is hoped the OBB will provide an informative and enjoyable means of sharing information on the fascinating world of Beetles.

“When we have experienced the atavistic joy of collecting in the open air and the manipulative pleasure of setting and mounting our chosen beetles there follows the refined intellectual delight of naming them with precision”.

Quote by G.B. Walsh taken from the first edition of the Coleopterists Handbook. W.J.B. Crotch, General Editor London, December 1953.

Cover Photo: *Euryptychus heterocerus* (Say). A rarely collected Eucnemidae taken in a Lindgren Funnel Trap Athens County, Ohio 14-29 July-2012 (13.0 mm) Ken Karns specimen and photo.

OHIO COLEOPTERISTS

2012 CHRISTMAS PARTY

Hosted By: OC Member George Keeney

Saturday December 15th 10:00 am to 2:00 pm

George Keeney's Place
47 East Torrence Road - Columbus, OH.
43214

Contact/Directions:
George (Cell: 614-530-8892)

The Christmas Party is a potluck with George providing a main dish and encourages everyone to bring any side dishes, fruit, deserts, or other special menu requirements you may have.

We will be of course discussing beetles so bring trade material, show-and-tell stuff, or things to be determined. Please make plans to attend and RSVP to keeney.1@osu.edu



2011 OC Christmas Party
Host: George Keeney

Fantastic Voyage... The Sequel!

by George Keeney

Since starting my work with acarologist Dr. Hans Klompen in The Ohio State University Museum of Biological Diversity last year, I have come to appreciate arthropod diversity on a whole new scale... literally! I did not really appreciate the world of the Acari until I actually forced to jump in feet first. I think it was Pliny the Elder (paraphrased over time) who said that "Nature is nowhere more perfect than in the minutest of her works". I have come to truly appreciate that statement after marveling at the innate beauty and architectural complexity of these tiny creatures at the microscopic level, right down to the setae and microsculpture of the integument.

My new additional duties at the museum include preparation, dissection, mounting, imaging, data-basing, etc. of a wide variety of mite species, particularly Mesostigmata for the Acarology Section. Hans works primarily with the family Uropodidae, which have a particular affinity for phoretic behavior in attaching themselves to insects, particularly Coleoptera. In fact, the mites that we often see attached via small anal strands to the integument of our oft collected scarabs, silphids, cerambycids, etc. are the deutonymphs of Uropodidae, hitching a ride to the next meal ticket. Imagine my luck! As a result I get a lot of beetle by-catch via the Berlese funnels, although much of it is relatively small compared to what tickles the fancy of most coleopterists. The typical uropodid mite has a classic nearly contiguous shell-like dorsal carapace, giving them an appearance somewhat reminiscent of a small tank or a turtle. They usually specialize on fungi and can be common residents of tree holes. I have had some great success this past year collecting from squirrel and meadow vole nests, various fungi, and in particular, tree hole niches. For instance, I collected 9 different species of uropodid this past summer from a single tree hole in my umbrella magnolia in my backyard. It was a mother lode!

On 19 October 2012, I was asked to accompany Dick Maxey and Cheryl Early, along with a couple other folks to go on a day trip to Tar Hollow State Forest to hike a portion of the Logan Trail, most of which winds primarily through oak-hickory upland forest. I came prepared for essentially "drive-by" collecting, given that I was with a mixed group of both coleopterists and non-coleopterists alike. We all know how that goes! The weather couldn't have been any better, being sunny and warm for autumn. I have become particularly fond of late of collecting the beetle fauna that are associated with various species of fungi. Dick and I collected a nice series of the endomychid, *Lycoperdina ferruginea*, which is a specialist on the "wolf fart puffball", *Lycoperdon pyriforme*. This small puffball can be found commonly growing in groups upon dead logs in the autumn. By gently rolling the puffball in your fingers, you can often feel the beetles in them, as the puffballs are thin skinned when ripe. Peeling them open often reveals one or more spore covered individuals of this species of Handsome Fungus Beetle. I also collected a nice series of several coleoptera species (yet to be determined) from a large outcropping of older Sulphur Shelf (aka Hen of the Woods), *Laetiporus sulphureus*. I have eaten this choice mushroom when I have found it in a younger state, trimming and cooking the more tender edges in stir fries, soups and stews, but this was beyond my tastes at this point.

I also happened upon a couple of very dry tree holes in the bases of chestnut oaks. Other tree holes I had collected from had not been as dry as these. I quickly collected up a couple baggies of the fine grained interior duff for later extraction with our Berlese funnels in the lab and was on my way.

After placing it in the Berlese funnels under 15 watt incandescent lamps for several days, I examined my takings. It was a meager haul, but Hans was extremely pleased that we were able to get a nice series of *Uropodella*, which despite its name, is not an uropodid. It belongs to the family Sejidae. It looks somewhat like an uropodid in shape, but is instead armored in a series of large plates covered in dense, short setae. It looks like it could have been a featured creature in "Starship Troopers"! *Uropodella* has a particular penchant for very dry tree holes. I also recovered a TINY beetle in my samples and I decided just for fun that I would take pictures of it with our imaging system here at the lab. This beetle is smaller than most of the mites I have been working with! It was a member of the family Ptiliidae, the Feather-Winged Beetles. This family contains the smallest beetles known to us.

The larvae and adults of this family feed upon molds and fungi that may be found in various organic matter such as the soil, decaying logs, compost heaps, tree holes, animal dung, under bark, washed up seaweed, etc. Many species possess polymorphism, where each sex is represented by two different forms. The "normal" morph has well-developed eyes, wings and body pigmentation, whereas the "vestigial" morph has reduced or absent eyes, wings and pigmentation. Often the two forms are so different in appearance that they appear to be different species or even genera. In the species where polymorphism occurs, the vestigial morph is the most abundant form, comprising 90% or more of the individuals.

These pictures illustrated below were taken at 200X on a Nikon Eclipse 90i microscope, using a Nikon DS-Fi1 scope mounted camera. The pictures are compiled from 17 stacked auto-exposed images taken at 4 micron intervals, utilizing NIS Elements Imaging System program.

This system allows one to also take accurate measurements at the point of a mouse. The total body length of this beetle is 380 microns. Pronotal length and width are 101 microns and 130 microns, respectively. Antennal length is 137 microns. My "working name" on this particular specimen is *Nanosella* sp. Obviously the first part of this genus name is quite apt! To give perspective of how small this beetle truly is, consider that the standard period at the end of a sentence is about 300 microns and that this beetle is not too much larger than a single-celled Paramecium, yet it has compound eyes, antennae, well developed wings and all the other necessary structures found in much larger coleoptera, but packed in an extremely small space.

This is a fascinating group and one of the least known families in the Coleoptera, with many species still undescribed. Unlike many other families where one may usually examine the male genitalia in order to separate closely allied species, the most useful structures in separating species of feather-winged beetles is the spermatheca of the female, which exhibits an distinct form in nearly every species. These beetles may also be collected by sieving debris over a white sheet or by waving a fine mesh aerial net in the afternoon when ptiliids are often flying or floating in the air. As a result, some have referred to them as a form of "aerial plankton". Hummm.... Another collecting technique that I haven't tried yet. Hurry up Spring!



Figured is a nice shot of the diminutive beetle *Nanosella* sp. (Ptiliidae) or "Feather Winged Beetle". Note the flight wings fringed with long hairs exposed beyond the tips of the elytra. The family Ptiliidae encompasses our smallest known beetles. This specimen measures 380 microns (.38 mm)

George Keeney specimen and photo.

WHAT TURN OF EVENTS BROUGHT ME TO THE OHIO COLEOPTERISTS SOCIETY

By Richard Maxey

In July 1987, I had just returned from a photography trip to Costa Rica led by Dave Dennis. It also included Dr. Eric Juterbock, Dr. Barry Valentine and his wife Buena. I took 1500 slides of great rainforest vistas, volcano shots, and animals including snakes, tree frogs, poison dart frogs, and a good number of insects. One day I had helped Dr. Valentine and Buena collect Anthribids (Fungus Weevils) after some instruction from Dr. Valentine as to how to find them. In a rainforest, looking at the correct fungus on tree trunks narrows the search and even I could find them.

At night, I would go out and collect various insects for us to photograph the next day and then turn them loose. I was using a carbide light since I had just started caving recently. The smell brought back memories for Dr. Valentine of his early caving days in Alabama. Barry would set up lights and a sheet and collect insects, my contribution was removing the numerous Marine Toads that were jumping on the sheet and feasting on the insects. It was a great trip and started my interest in insects.

Upon my returning to work, I stopped by the old OSU Greenhouse and Insectory to see who replaced my old friend John McCabe. I introduced myself to George Keeney, the new person in charge and we quickly became good friends. I told him of my Costa Rica trip and also of my caving trips. I managed to convert him into caving and he converted me into collecting insects for him in my travels. He taught me a great deal as to collecting techniques, including patiently explaining why I should not have labeled bottles of insects from a Mexican cave trip with an ink pen on the outside. Number one, the label could be ruined by the alcohol fading the ink and number two, the data could actually be lost if the label came off. It was obvious; even though I could collect I needed to learn a lot.

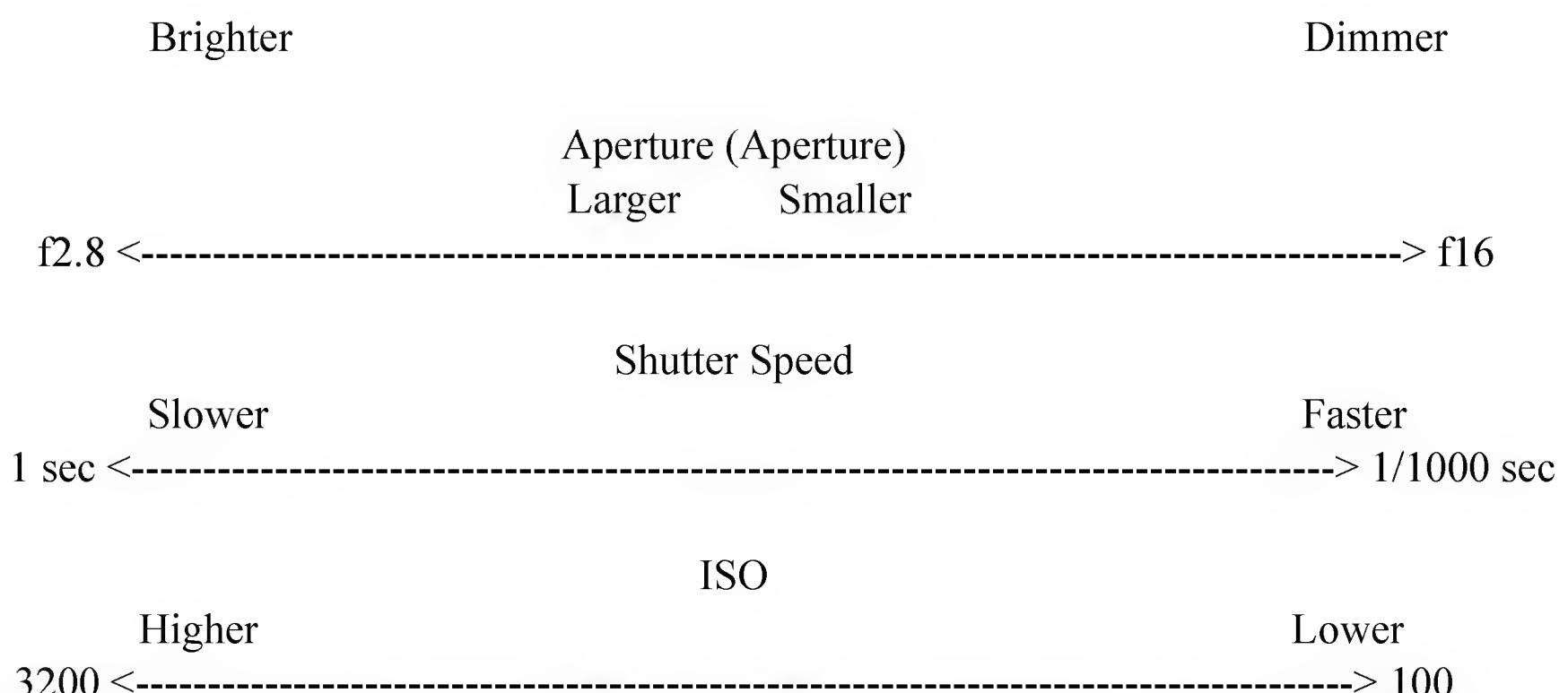
In the course of meeting people George knew, I met Bob Androw who kept encouraging me to start my own collection. I kept putting that off, as it was more fun to just collect for George. Probably to George's chagrin I did finally start my own collection. George was of immense help with that project, as pinning small beetles was challenging for me. George and Bob both taught me a lot about collecting including; collecting equipment, when to collect specific beetles, how to properly mount specimens and in general how to take care of a collection.

When I joined The Ohio Coleopterist I renewed my contact with Dr. Valentine and Dr. Charles Triplehorn who have identified many Curculionidae (Dr. Valentine) and Tenebrionidae (Dr. Triplehorn). I also met Ken Karns and Foster Purrington who have generously helped me identify specimens and have become good friends as well. Ken specifically has held the organization together the past number of years as president. We all owe him our upmost respect and gratitude for the job he has done. We need more people with his energy level and patience to help to continue to improve the organization and recruit new members.

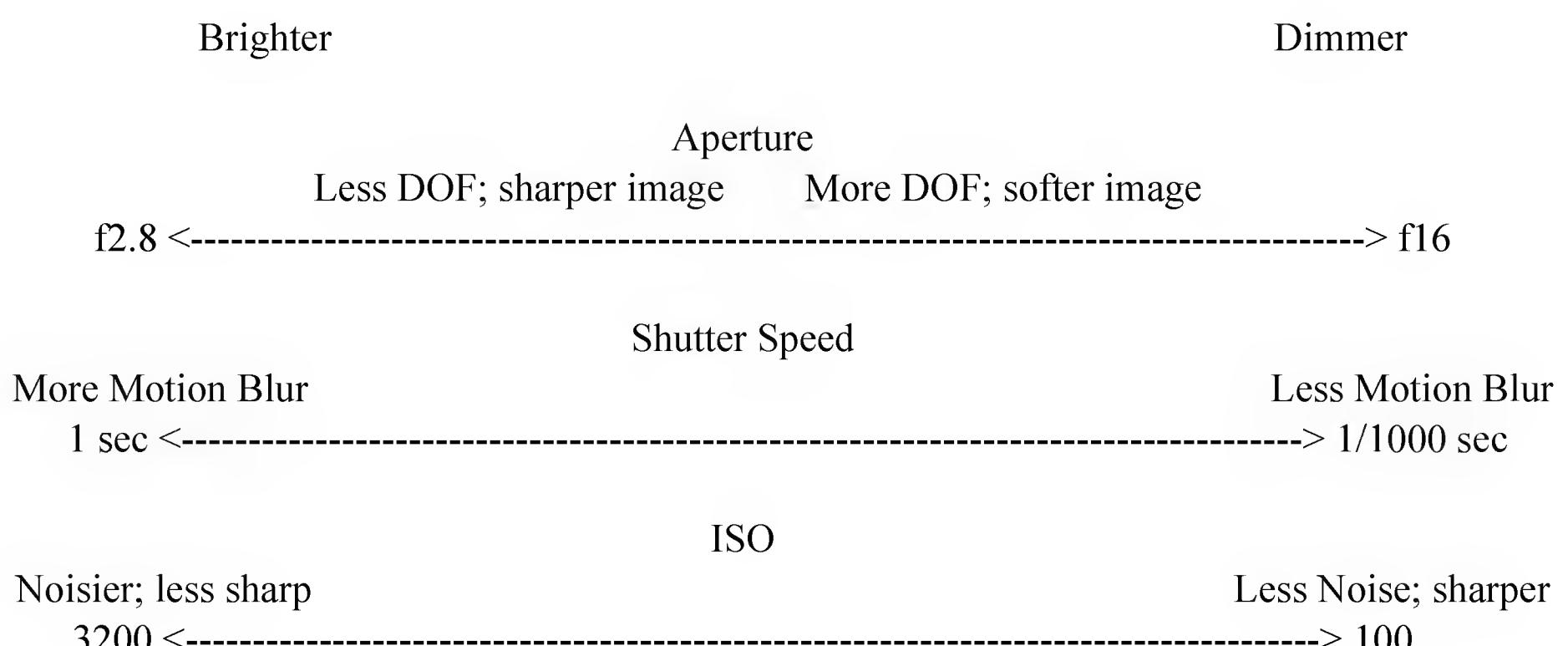
Introduction to Insect Macro Photography

I've been shooting macro photos since I got my first SLR camera when I was 15 years old. I was always interested in magnifying glasses and microscopes and quickly my camera became an extension of that interest. With that first SLR there was a small booklet on photography it showed examples of landscape photos, studio shots, sports photos. but to this day what I remember was a series of close up moth photos. I think that was the point where I was totally hooked. For years I worked with film and had some minor success but the cost and the lack of immediate feedback kept me from moving forward. With the advent of digital those problems were solved and my primary focus became macro-photography. The ability to shoot pictures at little cost allowed me to quickly climb the learning curve. Even today I continue to learn more nearly every time I shoot. Hopefully I can share some of my knowledge and help other photographers get better photos.

To get started I want to define a few basic photography terms Aperture, Shutter Speed, and ISO. These three things work together to determine exposure. Let's start with a simple chart, below I have listed each term and from what makes the image brighter to dimmer.



By balancing these three things we can achieve the proper exposure for an image. In addition to making the image brighter or dimmer there are other effects associated with each of the terms that effect how we may want to expose the image.



There are a couple other terms I would like to define. Something I will be talking about quite a bit is Depth of Field (DOF). Depth of field is the distance from the nearest point of acceptable focus to the most distant point of acceptable focus. In macro-photography achieving DOF is most often our primary goal and we are going to have to make trade-offs to achieve that goal.

Finally I want to give my personal definition of macro. For our purposes I consider macro to be from about 1:3 (1/3x) to 1:1 (1x or life size). What do terms like 1:3 and 1:1 mean ? This number is the ratio of the size of the insect to the size of the insect on the sensor of the camera. For example if you have a 9mm long insect at 1:3 the insect will cover 3mm of the sensor of the camera at 1:1 the insect will cover 9mm. This ratio is a physical measurement of the subject, this size of the camera sensor does not factor into this ratio. The reason I want to make this clear is that 1:1 is the same whether you use a camera phone or the latest DSLR.

Next time I will discuss camera choices. Fine macro-photography can be done fairly inexpensively and I will start by discussing macro-photography on a budget. I'm going to leave you with some homework. I'm sure most of you have a digital camera, go find the manual/CD and read it. Learn how to control the three things I mentioned above (Aperture/fstop, Shutter Speed, ISO). Don't just read the manual actually get the camera out, try changing the settings and take some pictures. If you have any questions you would like to ask me or if you would like me to cover a specific topic please drop me a note.

Scott Hogsten
scotthogsten@yahoo.com



Stunning shot of the difficult to catch, let alone photograph,
Trichiini Scarab: ***Trigonopeltastes delta*** Forster
Scioto County, Ohio. Shawnee State Forest
Photo: Scott Hogsten



Nice shot of the Cleridae:
Chariessa pilosa var. ***marginata*** (Say)
Scioto County, Ohio. Shawnee State Forest
Photo: Scott Hogsten

I believe we've talked Scott into providing a routine macrophotography section to the Ohio Beetles Bulletin. There are a good number of members interested in macrophotography of our beetle fauna here in Ohio and Scott's experience and knowledge is a welcome addition to the Bulletin and the OC organization.